

**COMPLETING THE PUZZLE:
EXPLORING POSSIBLE ANTECEDENTS TO RAPE
MYTH ACCEPTANCE**

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COMPLETING THE PUZZLE: EXPLORING POSSIBLE ANTECEDENTS TO RAPE MYTH
ACCEPTANCE

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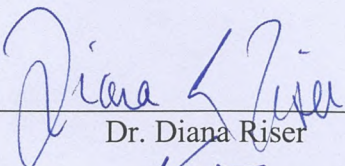
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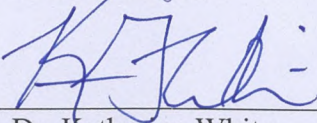
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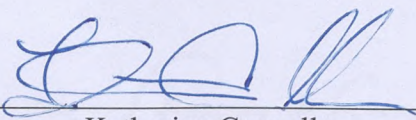
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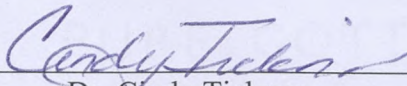
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Abstract

Rape myths are commonly accepted, but usually false, attitudes and beliefs about the act of rape, the perpetrators, and most often the victims (Aronowitz, Lambert, & Davidoff, 2012). Studies have shown that the endorsement of rape myth attitudes influences not only the likelihood of a sexual assault occurring, but also whether or not the incident is reported, and how the victims view themselves and their experiences afterwards (Burnett et al., 2009). The present study surveyed college students to assess their levels of social competence, semantic knowledge of sex, bystander attitudes, and rape myth acceptance (RMA). The purpose of this study was to explore various factors that could be used to predict RMA levels. It was hypothesized that bystander attitudes, social competence, and sexual knowledge would all be negatively correlated with RMA. Participants were asked to complete four scales of measurement to assess the levels of RMA, bystander attitudes, social competence, and sexual knowledge of participants, as well as a demographics survey. Results indicated that RMA was negatively correlated with both bystander attitudes and sexual health knowledge, and both were significant predictors of RMA. Though no relation was detected between RMA and social competence, future research should further explore the possibility of mediation due to the findings that social competence significantly predicted bystander attitudes and, as mentioned above, bystander attitudes significantly predicted RMA. The findings indicated that awareness programs could be more successful in lowering RMA by introducing elements designed to increase a person's bystander attitudes and knowledge about sex.

Keywords: rape myth acceptance, bystander attitudes, sex education, sexual health knowledge, social competence, college students

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Completing the Puzzle: Exploring Possible Antecedents to Rape Myth Acceptance

One in four college women will become the victim of an attempt or completed sexual assault during her time in college, and her experience will most likely not be reported to the university or the police. Statistics have shown that the group most at risk for sexual assault are females ages 18-24. This age group, as most will recognize, is the average age of most American college students today. In 2013, the Campus Save act was signed into law requiring all universities receiving federal funding to provide primary sexual assault prevention and awareness programs for all students and employees ("Understanding the Campus", n.d.). Even with the active prevention efforts by universities, however the sexual assault epidemic continues to plague college campuses across the U.S. (Sinozich & Langton, 2014). The leading explanation is that college campuses foster a rape culture through the endorsement of rape myths, which have been shown to increase the risk of sexual assault (Aronowitz, Lambert, & Davidoff, 2012; McMahon, 2010).

Rape myths can be thought of as cultural beliefs that serve to deny or minimize the occurrence of a sexual assault, or to support the view that the victim is to blame for being assaulted (Brownmiller, 1975). Brownmiller (1975) described rape myth acceptance as, "attitudes and beliefs that are generally false but are widely and persistently held, and that serve to deny and justify male sexual aggression against women". Studies have also shown that the endorsement of rape culture attitudes influences not only the likelihood of a sexual assault occurring, but also whether or not the incident is reported, and how the victims view themselves and their experiences afterwards (Burnett et al., 2009). Even though all public universities are required to have active prevention efforts on their campuses, the prevalence of sexual assault on college campus remains a substantial issue (Baynard, Moynihan, & Plante, 2007; Sinozich &

Langton, 2014; "Understanding the Campus", n.d.). An analysis of the current literature on rape culture and rape myth acceptance reveals three factors possibly serving as antecedents to rape myth acceptance: bystander attitudes, sexual health knowledge, and social competence (Aronowitz et al., 2012; Banyard et al., 2007; Emmers-Sommer et al., 2004; Mallet & Herbé, 2011). The present study was conducted to examine these variables and determine their influence on the acceptance of rape myths by college students.

Sexual Knowledge

Another factor that may account for some of the variability in rape myth acceptance is the level of semantic knowledge a person has about human reproduction and sexual health in general. Aronowitz and colleagues (2012) studied possible antecedents to one's likelihood of accepting rape myths and found that, for college students, lower scores on a sexual knowledge exam were indicative of having higher rape myth acceptance scores. Prior research has also suggested the existence of a deficit in the sexual education of American adolescents (Carrera, Williams, Philliber, & West, 2000), indicating a possible explanation for the continued endorsement of rape myth beliefs despite active awareness efforts (Aronowitz et al., 2012; Sinozich & Langton, 2014). Carrera and colleagues (2000) gave a sex knowledge exam to American adolescents across the country. The results were shocking, with an average score of 40% correct among participants. Of the participants, 73% thought that a person could never choose to be abstinent once they have had sexual intercourse, only 33% knew that "pulling out" was not a form of birth control, and only 37% knew that there were other activities that a person could use to satisfy their sexual needs besides intercourse (Carrera et al., 2000). These findings indicate that there may be a deficit in the sexual knowledge of adolescents, which could be

influencing the types of beliefs they endorse as adolescents and later in adulthood (Aronowitz et al., 2012; Mallet & Herbé, 2011).

Mallet and Herbé (2011) assessed the rape-supportive beliefs held by adolescents (age 12-17), specifically focusing on beliefs regarding situations when it is acceptable for an adolescent boy to force sex on an adolescent girl. They also assessed students' sexual knowledge, and found that lower sexual knowledge significantly predicted higher rape-supportive beliefs. The study by Mallet and Herbé (2011) is limited in that the rape-supportive beliefs they assessed were focused on the explicit action of a boy forcing sex on a girl, and the sample consisted of solely middle and high school aged adolescents. The present study aims to expand upon prior research by assessing whether sexual knowledge is also a predictor of rape myth acceptance, which addresses subtler rape myths, and whether this relation generalizes to adult individuals (McMahon & Farmer, 2011; Payne, Lonsway, & Fitzgerald, 1999). It was hypothesized that students with lower sexual health knowledge would be more likely to have higher RMA levels, and student sexual health knowledge would significantly predict their endorsement of rape myths (Aronowitz et al., 2012).

Social Competence

Social competence, more commonly known as social skills, has long been recognized as a crucial factor for effective interpersonal interactions. The importance of social competence has been noted in developing and maintaining of all types of relationships, ranging from elementary peer group popularity to marital satisfaction (Burhmester, Furman, Wittenburg, & Reis, 1988). It stands to reason that if the presence of social skills is important for successful interactions, then deficiencies may lead to anti-social behaviors and interactions. Research on sexual assault offenders has supported this notion. A meta-analysis of the relation between sexual offenders and

social skills found a consensus between all studies wherein social skill deficiencies were associated with a higher likelihood of committing an act of sexual assault or aggression (Emmers-Sommer et al., 2004). Although it is believed that social skills are an influencing factor in the likelihood of committing acts of sexual assault (Emmers-Sommer et al., 2004), little to no prior research has been done on the role social skills play in a person's attitudes towards sexual assault and aggression. The present research aims to determine the association between social skills and rape myth acceptance, and also assess the possibility that social skills may serve as a predictor of a person's likelihood of believing rape myths. It was believed that those with lower social competence would be more accepting of rape myths (Emmers-Sommer et al., 2004).

Bystander Attitudes

The Bystander effect is a known factor involved in the progression of rape culture on college campuses, but the extent of its influence has yet to be fully explained by research. The bystander effect is a phenomenon in which the greater number of people that are present, the less likely a nearby person (bystander) is to intervene to assist someone in need (Darley & Latané, 1968b). Many sexual assault prevention programs now include elements of bystander intervention training, in an effort to increase the likelihood that someone will step in if they view a situation where a sexual assault is at risk of occurring (Banyard et al., 2007; Foubert et al., 2010). Research had shown that most college sexual assaults occur in social settings or in the victim's own home, and in both settings it is highly likely that the victim will have a friend or roommate, present or nearby (Kleinsasser et al., 2015). It is theorized that programs designed to not only give students the tools to recognize risky situations, but also the confidence to intervene to protect a friend, could prove the most successful for increasing intervention rates and thus lowering the prevalence of sexual assault (Banyard et al., 2007; Foubert et al., 2010).

While increased intervention could help decrease the overall number of sexual assaults, it is still unclear the degree of impact bystander attitudes have on the underlying beliefs regarding sexual assault. McMahon (2010) discovered a negative relation between bystander attitudes and rape myth acceptance in her study of Midwestern college students, indicating that increased endorsement of bystander behaviors, higher willingness to intervene, was associated with lower rape myth acceptance. Other studies have assessed sexual assault awareness programs that include aspects designed to increase bystander efficacy and behaviors, and many reported lower RMA in participants who completed the programs (Banyard et al., 2007; Foubert, et al., 2010; Kleinsasser et al., 2015). Though the programs evaluate in prior research also included elements of sexual assault awareness, so the extent to which RMA was influenced by the increase in bystander attitudes specifically, as opposed to other aspects of the program, is unclear. The present study aimed to replicate the relational findings of previous studies, and determine if bystander attitudes successfully predicts RMA when assessed independently. It was believed that students with a greater willingness to engage in bystander behaviors would have lower acceptance of rape myths, and that higher bystander attitudes would be predictive of lower rape myth acceptance (Aronowitz et al., 2012; Banyard et al., 2007; McMahon, 2010).

Social Skills, Bystander Attitudes, and RMA

Research with adolescent bullying has implicated the importance of improving students' social competence in preventing students from becoming bullies and increasing the likelihood that they will intervene if they see another student being bullied (Smith & Low, 2013). Cyberbullying research has also shown that students with lower social skills and higher attitudes supporting passive bystanding (less willing to intervene) were less likely to intervene to stop bullying, and were more likely to engage in negative bystander behaviors (i.e. laughing,

forwarding online posts) (DeSmet et al., 2016). If a relation exists between social skills and attitudes supporting intervention at the adolescent level, then there is a possibility that social skills may also be associated with willingness to intervene as adults. Studies have consistently shown a strong positive correlation between bystander attitudes and bystander intervention in sexual assault situations, as well as a strong negative relation between bystander attitudes and rape myth acceptance (Banyard et al., 2007; Foubert et al., 2012; Kleinsasser et al., 2015; McMahon, 2010; McMahon et al., 2011). The present study aims to assess whether bystander attitudes mediates the relation between social skills and RMA. It was hypothesized that the relation between social skills and rape myth acceptance would be significantly mediated by bystander attitudes (DeSmet et al., 2016; Banyard et al., 2007; McMahon, 2010).

Method

Participants

Most participants were recruited by convenience sampling, through an online participation system (SONA), provided by the Psychology department of CSU. Other participants were recruited through the snowball method, on Facebook. Data was collected from 355 participants ranging from 18-70 years of age ($M = 21.69$, $SD = 7.13$). Data for 50 participants could not be analyzed due to a failure to complete all of the required surveys, providing a final sample of 305 (73 males, 231 females).

Procedure

The survey was designed and administered through SurveyMonkey.com. Participants recruited using the SONA system were emailed a link to the survey immediately after signing up for the study. All other participants accessed the survey through a link embedded in a Facebook post. Participants' data was not linked to their names or school identification numbers in any

way, and no IP addresses or any other identifying information was saved. Upon opening the survey, participants were shown a standard informed consent form. Participants were given the choice to either consent or not consent, but if they chose not to consent, they were immediately redirected to the end of the survey for debriefing. If they chose to consent, then they were allowed to proceed with the survey questionnaires, (see measures below). Upon completion of the questionnaires, they were then debriefed using a standard debriefing form. Once they had finished reading the debriefing page, the study session was complete. Participants were allowed as much time as necessary to complete the study, but the average time spent was approximately 23 minutes. Data was stored securely on the Survey Monkey website, and then downloaded onto an SPSS file for analysis. As compensation for completing the study, CSU participants were awarded 2 points that could be used for extra credit through the SONA system. Non-CSU participants received no compensation.

Measures

This study used four scales of measurement to assess the levels of rape myth acceptance, bystander attitudes, interpersonal competence, and sexual knowledge of participants. Also, a demographics survey was included to gather more information on the participants.

Illinois Rape Myth Acceptance Scale (IRMA).

This 19-item scale was updated from the original 45-item IRMA scale (Payne et al., 1999), which was one of the most widely used scales for assessing a person's level of rape myth acceptance (McMahon & Farmer, 2011). Within the overall scale are four subscales targeting different types of excuses used to minimize or deny the occurrence of a sexual assault: *She lied*, *He didn't mean to*, *She asked for it*, and *Not really rape*. The scale consists of statements like, "Rape happens when a guy's sex drive gets out of control," and "When girls go to parties

wearing slutty clothes, they are asking for trouble.” Participants indicated their level of agreement with each item using a 5-point Likert Scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores indicated a greater endorsement of rape myths. The previous study reported a Cronbach’s Alpha level of $\alpha = .87$ (McMahon & Farmer, 2011), and an alpha level of $\alpha = .89$ was established in the present study. The scores of the present study ranged from 1.00 to 4.32 ($M = 2.21$, $SD = .64$), with the mean and standard deviation of each subscale as follows: *She lied* ($M = 2.56$, $SD = .88$) *He didn’t mean to* ($M = 2.31$, $SD = .76$), *She asked for it* ($M = 2.19$, $SD = .88$), and *Not really rape* ($M = 1.61$, $SD = .70$). Scores indicated that the overall RMA levels of participants were low to moderate (McMahon & Farmer, 2011).

Bystander Attitudes Scale Revised (BAS-R)

This 16-item scale was intended to measure participants’ willingness to engage in examples of bystander behavior that are presented (McMahon, Postmus, & Koenick, 2011). Examples include behaviors like, “Say something to my friend who is taking a drunk person back to his/her room at a party” and “Confront a friend who is hooking up with someone who was passed out,” and participants indicated their willingness using a 5-point Likert Scale ranging from 1 (most unwilling) to 5 (most willing). Higher scores indicate a higher willingness to intervene in the given situation. The scale was scored using the original 16 items ($\alpha = .85$), and again after four items were removed due to the items assessing more individualistic behaviors as opposed to bystander behaviors. A Cronbach’s alpha level of $\alpha = .79$ was established for the trimmed version of the scale. The 12-item revised scale had a scores ranging from 1.42 to 5.00 ($M = 3.97$, $SD = .56$), and the mean was found to be significantly lower than the mean of the original 16-item scale ($M = 4.10$, $SD = .53$), ($t(304) = -4.04$, $p < .001$).

Sexual Health Knowledge

This scale was designed to gauge participants' knowledge on reproductive physiology, contraception, and sexually transmitted infections. There were 38 items total, and participants were given 1 point for each correct answer, with possible points in each section as follows: 20 points for reproductive physiology, 12 points for contraception, and 6 points for sexually transmitted infections. This scale was developed for use with adolescents, and has a reported Cronbach's alpha of $\alpha = .89$ (Carrera, Kaye, Philliber, & West, 2000). An alpha level of ($\alpha = .85$), was established for the present study, indicating satisfactory reliability. Overall exam scores in the present study ranged from 13 to 38 ($M = 31.70$, $SD = 4.16$), averaging approximately 83% correct, with individual subscale means as follows: *reproductive physiology* ($M = 15.67$, $SD = 2.76$), *contraception* ($M = 10.45$, $SD = 1.50$), and *sexually transmitted infections* ($M = 5.58$, $SD = .82$). Scores indicated that participants had fairly high sexual health knowledge overall (Carrera et al., 2000).

Interpersonal Competence Questionnaire (ICQ)

This scale was designed to study a person's interpersonal competence through 5-dimensions: initiating relationships, self-disclosure, asserting displeasure with others' actions, providing emotional support, and managing interpersonal conflicts. The scale consisted of 40 items, with 8 items per domain. Examples of scale items include, "Introducing yourself to someone you might like to get to know (or date)" and "Being a good and sensitive listener for a companion who is upset." Participants indicated their level of comfort and competence with completing the tasks described in each item using a 5-point Likert scale ranging from 1 (I'm poor at this; I'd feel so uncomfortable and unable to handle this situation, I'd avoid it if possible) to 5 (I'm extremely good at this; I'd feel very comfortable and could handle this situation very well).

Higher scores indicated a greater level of social competence. The median Cronbach's alpha for the domain scales was reported as $\alpha = .83$ (Buhrmester et al., 1988), and an alpha level of $\alpha = .93$ was established for the present study. Present study scores ranged from 1.00 to 4.95 ($M = 3.53$, $SD = .54$), with the individual subscale means as follows: *emotional support* ($M = 4.08$, $SD = .72$), *negative assertion* ($M = 3.62$, $SD = .79$), *conflict management* ($M = 3.57$, $SD = .68$), *initiation* ($M = 3.22$, $SD = .82$), and *disclosure* ($M = 3.17$, $SD = .71$).

Participant Demographics

A demographics survey collected data on 7 demographic variables: gender, age, native language, Hispanic affiliation, race, sexual orientation, and class ranking. It also included 3 questions about prior sex education and violence prevention education. Data was analyzed for 305 participants (73 males, 231 females), though all participants were not included in select demographic variable analyses due to the participants' selection of the "prefer not to answer" or "N/A" answer choice. Participants ranged in age from 18 to 70, and one sample *t*-tests determined that the sample mean for age ($M = 21.69$, $SD = 7.13$) was significantly lower than the overall campus mean of 25, which stands to reason given the high percentage of freshman students in the sample. Racial distribution data was analyzed for 291 participants, and the racial distributions were as follows: 55.2% White, 31.4% Blacks, 2% Asians, and 11.4% Multiracial, other, or prefer not to say. The sample racial distributions were found to be not representative of the overall population of CSU students ($\chi^2(5,291) = 26.92$, $p < .001$). Chi-Square goodness of fit tests on both gender and class rank distributions revealed that the sample was not representative of the overall population for either variable, with the sample containing a significantly higher percentage of female and freshman participants than are found in the population. A high rate of freshman participants was expected due to most introductory psychology courses at the

university offering extra credit for research participation. An alpha level of $p < .05$ was maintained for all statistical analyses.

Results

Primary Hypothesis

Pearson's r correlations were run to analyze the relationships between IRMA scores and the scores of the 12-item BAS-R, the social competency scale, and the sexual knowledge questionnaire. Consistent with the hypothesis, a significant, negative correlation was found between RMA and bystander attitudes ($r(303) = -.42, p < .001$). Also, consistent with the hypothesis was the finding of a significant negative correlation between RMA and sexual health knowledge ($r(303) = -.35, p < .001$). Contrary to the hypothesis, no significant relation was detected between RMA and social competence.

Simple linear regressions were used to test whether bystander attitudes and sexual health knowledge significantly predicted RMA. Results indicated that bystander attitudes significantly predicted RMA ($\beta = -.42, t(303) = -7.97, p < .001$), and accounted for 17% of the variance ($R^2 = .17, F(1, 303) = 63.59, p < .001$). Sex knowledge also significantly predicted RMA ($\beta = -.35, t(303) = -6.55, p < .001$), and accounted for 12% of the variance ($R^2 = .12, F(1, 303) = 42.92, p < .001$). Overall, the findings supported the hypotheses that bystander attitudes and sexual health knowledge would both be significantly related to and predict RMA. Although the hypothesized relation between social competence and RMA was not supported.

Secondary Hypothesis

The causal steps approach outlined by Barron and Kenny (1986) is the most commonly used approach for mediation testing in the field of Social Psychology (Rucker, Preacher, Tormala, & Petty, 2011). This approach requires a significant relation between the independent

variable (X) and a dependent variable (Y) in order to proceed with testing for mediation (Barron & Kenny, 1986). However, recent literature has criticized this method for its low power to detect a mediation (Fritz & MacKinnon, 2007; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002), and has argued that a significant $X \rightarrow Y$ relation is not necessary for the examination of a theory proposing mediation (Hayes, 2009; MacKinnon & Fairchild, 2009; Rucker et al., 2011). Therefore, even though a significant relation between social competence and RMA was not detected, the mediational analysis proceeded with a product of coefficients approach.

Simple linear regression analysis revealed higher social competence significantly predicted by higher bystander attitudes ($\beta = .33$, $t(303) = 6.06$, $p < .001$), accounting for 11% of the variance ($R^2 = .11$, $F(1, 303) = 36.76$, $p < .001$). Multiple regression revealed that bystander attitudes still significantly predicted RMA ($\beta = -.44$, $t(303) = -8.06$, $p < .001$) when controlling for social competence, however social competence did not significantly predict RMA. Results of the Sobel test were significant ($z' = -4.83$, $p < .001$), suggesting the possibility of an indirect effect despite the lack of significance in the social competence to RMA pathway (Hayes, 2009; Rucker et al., 2011).

Power was determined based off the findings of Fritz & MacKinnon (2007), using the regression coefficients from the α and β pathways outlined in the Barron and Kenny (1986) causal steps approach. Given the study's α (.33) and β (-.44) regression coefficients, a required sample size of 144 was needed for .8 power to detect mediation using the Sobel test, indicating the present study's sample size ($n = 305$) was sufficient for .8 power to detect a mediation effect (Fritz & MacKinnon, 2007).

Overall the findings supported the hypothesis that social competence, through its relation with bystander attitudes, may influence college students' endorsement of rape myth beliefs. The

lack of a direct effect of social competence on rape myth acceptance could be explained by another unidentified variable influencing RMA in the opposite direction, suppressing the detection of a direct effect (Mackinnon, Krull, & Lockwood, 2000).

Exploratory Analysis

Exploratory analyses were conducted to compare the IRMA scores of the present study with scores collected in prior studies to determine if there were any significant differences, which could indicate possible trends in overall RMA levels. A one sample *t*-test determined the overall IRMA score mean of the present study ($M = 2.21$, $SD = .64$) to be significantly higher than the mean score from a study done on the same campus 1-year prior ($t(304) = 9.83$, $p < .001$) (Geeslin, 2015). One-sample *t*-tests were also conducted to assess whether the present study's scores significantly differed from IRMA scores collected at other universities in the U.S. McMahon (2010) reported a mean IRMA score of 2.51 ($SD = .56$), which was found to be significantly higher than the IRMA mean of the present study ($t(304) = -8.27$, $p < .01$), indicating a possible trend toward lower RMA. The present study's IRMA mean was also found to be significantly lower than the mean of 2.30 ($SD = .63$) reported by Chapleau and Oswald (2010) ($t(304) = -2.51$, $p < .001$). It is possible that the significant difference found between the present study and prior research are in part due to the time difference between the studies, due to possibility that RMA levels are getting lower over time. The findings of the present study suggest that there may be a trend towards lower endorsement of rape myths by college students, though RMA levels would need to be assessed in the regions where it was analyzed by prior studies in order to confirm this explanation.

Analysis of the IRMA subscales revealed that the mean for the subscale *She lied* was significantly higher than all other subscales and the total IRMA score mean ($p < .001$), indicating

that many participants endorsed myths associated with women lying about the occurrence of a sexual assault over all others. The mean score for females was also found to be significantly lower than the mean score for males ($t(302) = -4.83, p < .001$). Table 1 shows the means and standard deviations of all project scales, separated by gender.

Table 1.

Means and Standard Deviations, by Gender, for all Project Scales.

Note: Gender means found to be significantly higher than that of the opposite gender, for each scale, are denoted as $p < .05^*$ and $p < .001^{**}$

Scales	<i>M</i>	<i>SD</i>	Range
IRMA			
Male	2.51**	.64	1.16-4.32
Female	2.11	.61	1.00-3.95
ICQ			
Male	3.54	.58	2.30-4.80
Female	3.53	.53	1.00-4.95
BAS-R			
Male	3.85	.62	2.67-5.00
Female	4.01*	.54	1.42-5.00
Sexual Knowledge			
Male	29.37	4.77	14.00-37.00
Female	32.43**	3.68	13.00-38.00

Exploratory analysis of other scale correlations revealed a significant positive correlation between bystander attitudes and sexual health knowledge ($r(303) = .30, p < .001$), (see table 2 for all scale correlations). Results of a simple linear regression showed higher sex knowledge also significantly predicted higher bystander attitudes ($\beta = .30, t(303) = 5.40, p < .001$), though only accounting for 9% of the variance ($R^2 = .09, F(1, 303) = 29.20, p < .001$). Pearson's r correlations were run to assess if prior sex education or participation in a sexual assault awareness program was related to RMA, though no significant relations were detected.

Table 2.
Pearson's r correlations Between Survey Measures.

Note: Significance is denoted as $p < .05^*$ and $p < .001^{**}$

Scales	1	2	3
1. IRMA			
2. BAS-R	-.42**		
3. ICQ	.29	.33**	
4. Sexual Health Knowledge	-.35**	.30**	.09

Discussion

There is much debate over what should be included in sexual assault awareness programs, and this study was dedicated to exploring factors that could predict RMA and increase the success of awareness programs if addressed. The present study examined college students' rape myth acceptance levels to determine if they are related to as well as predicted by other participant variables. Bystander attitudes, sexual knowledge, and social competence were all assessed and analyzed as possible antecedent to RMA. Consistent with prior research, bystander attitudes were found to be negatively related to RMA (McMahon, 2010; McMahon et al., 2011). As expected, the results also indicated that higher bystander attitudes significantly predicted lower RMA. While prior studies have found that programs designed to decrease sexual assault through bystander education also show a decrease in RMA, it was unclear the extent of the influence bystander attitudes alone had on RMA (Banyard et al., 2007; Foubert et al., 2010). The findings of the present study indicated that bystander attitudes alone significantly predict RMA, which suggests that awareness programs could increase their effectiveness by introducing elements designed to increase a person's bystander attitudes.

The results also showed that the more sexual knowledge a student had, the less likely the student would be to accept rape myths, which is consistent with what prior studies have found (Aronowitz et al., 2012; Mallet & Herbé, 2011). Prior research that reported a predictive relation

between rape culture beliefs and sexual health knowledge had focused primarily on young adolescents and attitudes towards more explicit instances of sexual assault (i.e. is it rape when a male teenager uses physical force to coerce a female classmate into having sex?) as opposed to RMA which covers less explicit sexual assault instances (i.e. Believing it is rape if a women says “stop,” after intercourse has already begun, and the man does not stop because she initially said “yes?”) (Mallet & Herbé, 2011). The present study was able to demonstrate the presence of the relation between sexual knowledge and rape myth acceptance in adult individuals, filling an important gap in the literature. Although further experimental research is still needed, this suggests that sexual knowledge may be an important component leading to the development of false beliefs about sex and sexual assault.

Prior research conducted with sexual assault perpetrators found that the social competence of perpetrators was significantly lower than that of non-perpetrators (Emmers-Sommer et al., 2004). Little research has directly assessed the relation between social competence and attitudes towards sexual assault. The present study assessed this relation, and contrary to the hypothesis, a significant relation was not detected between RMA and social skills. However, these findings do not necessarily mean that social skills have no relation to RMA.

Research with adolescent bullying has shown higher social competence to be associated with higher willingness to intervene in bullying situations (DeSmet et al., 2016; Smith & Low, 2013). Knowing that higher willingness to intervene in sexual assault situation is strongly associated with lower rape myth acceptance (Banyard et al., 2007; Foubert et al., 2012; McMahon, 2010; McMahon et al., 2011), the present study aimed to assess whether social competence 1) was related to the willingness to intervene in sexual assault related situations and 2) was indirectly related to RMA through bystander attitude. Results indicated that social skills

significantly predicted bystander attitudes, and the presence of a significant mediation indicated the possibility of RMA being indirectly related to social competence. A significant mediation was detected despite the lack of a significant relation between social skills and RMA, which is consistent with prior research that argues the requirement of a significance X to Y relation lowers the power to detect mediation and greatly increases the likelihood of committing a Type II error (Fritz & MacKinnon, 2007; Hayes, 2009; MacKinnon et al., 2002; MacKinnon & Fairchild, 2009; Rucker et al., 2011). This study was the first to examine social skills in regard to sexual assault prevention, and result indicated that social competence could be an antecedent to college students' development of beliefs supporting rape culture. However, further research using experimental design must be done to establish causation and fully understand how this influences sexual assault prevention and awareness.

Exploratory analyses revealed that the IRMA scores found in the present study were significantly lower than those found in similar studies conducted at other universities (Chapleau & Oswald, 2010; McMahon, 2010), and unexpectedly were significantly higher than scores collected at the same university one-year prior (Geeslin, 2015). This difference may be due to the larger sample size in the present study, and the use of an updated RMA measure (Geeslin, 2015; McMahon & Farmer, 2011). Also consistent with prior research, males were found to have significantly higher IRMA scores than females (Aronowitz et al., 2012; McMahon, 2010). These results indicate that even though universities are actively working to implement programs to educate students on sexual assault and prevention, many still endorse false beliefs about how sexual assault occurs and who is to blame ("Understanding the Campus, n.d.).

Limitations

This study had a few limitations that should be considered when interpreting the results. First, the sample was made up largely of women, and prior research has shown that females have significantly lower RMA than their male counterparts (Aronowitz et al., 2012; McMahon, 2010) as was also observed in the present study. Thus the appearance of a trend towards lower RMA in college students could simply be a result of the large proportion of women participants skewing the data towards lower scores (Chapleau & Oswald, 2010; McMahon, 2010). Second, this study did not look at overall intelligence in combination with sex knowledge to assess whether higher overall intelligence is influencing RMA levels as opposed to specifically sexual knowledge (Floyd, Reynolds, & Kranzler, 2014). Prior research has controlled for GPA in assessments of sex knowledge and RMA (Mallet & Herbé, 2011), though IQ tests have been shown to be better indicators of overall intelligence (Floyd, Reynolds, & Kranzler, 2014). Future studies should assess whether sexual knowledge continues to significantly predict RMA when overall intelligence is controlled for.

Additionally, there is also the concern of social desirability bias when conducting self-report survey research. Assessments related to sexual violence and bystander intervention are susceptible to respondents answering in a way that is perceived as being more socially acceptable or “politically correct,” as opposed to choosing answers that reflect their true beliefs (Tracey, 2016). Future research should strive to use modern scales that word items in a way that counteracts social desirability bias (Fisher, 1993).

Lastly, this study had a moderate sample size, and was conducted with participants in the Southern region of the U.S. The extent to which the results can be generalized to students from

various areas of the U.S. and other countries is limited. Replication of this study in other areas is warranted in order to assess whether or not the results are consistent across regions.

Future Research

As mentioned earlier, the finding that social skills predicted bystander attitudes and that bystander attitudes predicted RMA indicates that social skills could be influencing RMA through a mediation with bystander attitudes. Even though a significant mediation was detected in the present study, further research should continue to explore the relation using updated scale measures to counteract possible social desirability or suppressor variables which could be hindering the detection of a significant relation between social skills and RMA (Fisher, 2013; MacKinnon et al., 2000), as well as experimental designs to establish a causal relation between variables.

Future research should also assess the possibility of RMA moderating the relation between social skills and bystander attitudes. It stands to reason that the more confident and skilled a person is in everyday social situations, the more confidence they will have to intervene in a situation that they feel is problematic (Erozkan, 2013), affecting the third stage of the helping decision process where a person decides to either intervene or remain a bystander (Darley & Latané, 1968a). It is in the second stage of the bystander intervention process where a situation is interpreted an emergency or requiring intervention (Darley & Latané, 1968b). Knowing that the lower a person's RMA level, the more likely they are to recognize a situation where sexual assault is at risk of occurring, it is possible that RMA could influence whether or not a situation is viewed as requiring intervention (Aronowitz et al., 2012; McMahon, 2010). This would impact the relation between bystander attitudes and social competence, explaining why those with high social competence, who are more likely to be willing to intervene, would

choose not to act in a sexual assault situation (Darley & Latané, 1968b; DeSmet et al., 2016; Smith & Low, 2013).

Exploratory analysis revealed that sex knowledge was significantly related to bystander attitudes, as well as RMA. Prior research has also reported a negative relation between sex knowledge and an acceptance of social norms regarding sexual behavior, as well as acceptance of false beliefs regarding sexual assault (Aronowitz et al., 2012; Mallet & Herbé, 2011). Indicating that the lower a student's sexual knowledge, the more likely they are to conform to risky sexual behavior norms and endorse beliefs supportive of sexual assault (Aronowitz et al., 2012). This highlights an area requiring further exploration by the literature. Future research should further analyze the relation between sex knowledge, bystander attitudes, and RMA to broaden the current understanding of how these factors may be interacting to impact sexual assault awareness and prevention efforts.

Implications

Determining that sexual health knowledge is a significant predictor of RMA adds to the current literature on rape myth acceptance by generalizing findings from adolescent research to an adult population and into the field of sexual assault awareness (Mallet and Herbé, 2011). It also demonstrates the predictive relation between bystander attitudes and RMA when assessed outside of a sexual assault awareness program (Banyard et al., 2007; Foubert et al., 2012).

Although future experimental research is still needed to establish causation, the findings suggest that awareness programs could be more successful in lowering RMA by introducing elements designed to increase a person's bystander attitudes and knowledge about sex.

The findings also suggest the possibility of bystander attitudes and sexual health knowledge serving as protective factors against the development of false beliefs regarding sexual

assault. The focus on education of sexual assault specifically by prevention and awareness programs has not been as successful as many had hoped in creating lasting changes in bystander intervention and rape myth beliefs (Banyard et al., 2007; Foubert et al., 2012). The findings of this study suggest that there are factors, which if addressed before the development of misguided cultural beliefs, could serve to protect from developing a high rape myth acceptance level (Banyard et al., 2007; McMahon, 2010; Mallet & Herbé, 2011).

Conclusion

This exploratory study provided insight into how bystander attitudes, sexual health knowledge, and social competence related to college students' formation of false beliefs regarding sexual assault. Bystander attitudes and sexual knowledge were shown to be the most salient predictors of RMA, with high levels of both relating to low levels of RMA. Bystander attitudes were also shown to significantly mediate the relation between RMA and social competence, highlighting the need for further research into how social skills may influence sexual assault prevention efforts (Aronowitz et al., 2012; DeSmet et al., 2016). Findings also suggest that sexual assault awareness programs may be able to increase their effectiveness by addressing the sexual knowledge and bystander attitudes of their participants (Banyard et al., 2007; McMahon, 2010; Mallet & Herbé, 2011), though there is still the need for further experimental research with rape myth acceptance in order to establish causal relations between variables and to better understand how the factors are involved in a person's development and endorsement of false sexual assault beliefs.

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